AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device for separating optical signals at first and second wavelengths from one another, ~~said device~~ comprising

a planar light circuit comprising an internal waveguide structure adapted to direct optical signals in the planar light circuit; and

a wavelength selective filter ~~(WSF)~~ configured to pass a band of signals centered at said first wavelength and to reflect a band of signals centered at said second wavelength, ~~said WSF~~ the wavelength selective filter positioned external to the planar light circuit and placed in energy coupled proximity to an external surface of the planar light circuit ~~said PLC, said device further comprising an internal waveguide structure adapted to direct said optical signals in said PLC~~.

2. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 1 further comprising at least one signal detector to receive said optical signals.

3. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 2 wherein said signal detector is placed in energy-coupled proximity to ~~said WSF~~ the wavelength selective filter.

4. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 1 wherein ~~said WSF~~ the wavelength selective filter is placed in

energy-coupled proximity to said external surface of ~~said PLC~~ the planar light circuit using a deposition process.

5. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 1 wherein said internal waveguide structure has an input end and an output end, and ~~said WSF~~ the wavelength selective filter placed in a proximal relationship with said input end.

6. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 1 wherein said internal waveguide structure has an input end and an output end, and ~~said WSF~~ the wavelength selective filter placed in a proximal relationship with said output end.

7. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 1 wherein said internal waveguide structure comprises a bi-directional branching waveguide having input and output ports.

8. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 1 wherein ~~said PLC~~ the planar light circuit is fabricated with material having intrinsic wavelength selection absorption properties to pass signals at said first wavelength and to reflect signals at said second wavelength.

9. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 7 wherein ~~said WSF~~ the wavelength selective filter is placed in a proximal relationship with said branching waveguide input port.

10. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 7 wherein ~~said WSF~~ the wavelength selective filter is placed in a proximal relationship with said branching waveguide output port.

11. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device for separating optical signals at first and second wavelengths from one another, ~~said device~~ comprising

a planar light circuit comprising an internal waveguide structure adapted to direct optical signals in the planar light circuit; and

mirror means configured to pass signals at said first wavelength and to reflect signals at said second wavelength, said mirror means positioned external to the planar light circuit and placed in energy coupled proximity to an external surface of the planar light circuit ~~said PLC, said device further comprising an internal waveguide structure adapted to direct said optical signals in said PLC~~.

12. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 11 wherein ~~said PLC~~ the planar light circuit is fabricated with material having intrinsic wavelength selection absorption properties to pass signals at said first wavelength and to reflect signals at said second wavelength.

13. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device for separating optical signals at first and second wavelengths from one another, ~~said device~~ comprising

a wavelength selective filter ~~(WSF)~~ configured to pass a band of signals centered at said first wavelength and to reflect a band of signals centered at said second wavelength, ~~said WSF~~ the wavelength selective filter positioned external to a planar light circuit and placed in energy coupled proximity to an external surface of the planar light circuit; and ~~said PLC, said device further~~

the planar light circuit comprising an internal branching waveguide structure having an input end and first and second output ends, said input end adapted to direct said first wavelength signals to a detector at said first output end and to receive signals from an external signal source at said second output end.

14. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device as in claim 13 wherein said external signal source is a laser diode.

15. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device as in claim 13 wherein said external signal source is a LED.

16. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device as in claim 13 wherein said external signal source is directly attached to the ~~PLC~~ planar light circuit.

17. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device as in claim 13 wherein said external signal source is placed in close proximity to the ~~PLC~~ planar light circuit.

18. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device as in claim 13 wherein said internal branching waveguide structure ~~includes~~ comprises tapered waveguides.

19. (currently amended) A bi-directional planar light circuit ~~(PLC)~~ transceiver device as in claim 11 wherein ~~said PLC~~ the planar light circuit is fabricated with material having intrinsic wavelength selection absorption properties to pass signals at said first wavelength and to reflect signals at said second wavelength.

20. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly for separating optical signals at first and second wavelengths from one another, said assembly comprising

a planar light circuit comprising an internal waveguide structure adapted to direct optical signals in the planar light circuit;

a wavelength selective filter ~~(WSF)~~ configured to pass a band of signals centered at said first wavelength and to reflect a band of signals centered at said

second wavelength, ~~said WSF~~ the wavelength selective filter positioned external to the planar light circuit and placed in energy coupled proximity to an external surface of the planar light circuit; and ~~said PLC,~~

means for directing input optical signals to the wavelength selective filter ~~said WSF and an internal waveguide structure adapted to direct signals in said PLC~~.

21. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 20 wherein said means for directing input optical signals comprises an optical fiber in a V-groove structure.

22. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 21 wherein said V-groove structure has a polished end face cut at a forty-five degree angle.

23. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 21 wherein said V-groove structure is defined in a substrate, said optical fiber captured in said V-groove structure using an adhesive coating to adhere a glass cover layer over said optical fiber to said substrate.

24. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 21 ~~having means~~ comprising a component for detecting signals at said second wavelength located on the surface of said V-groove structure.

25. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 23 wherein said substrate is glass.

26. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 23 wherein said substrate is ~~is~~ silicon.

27. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 20 wherein said means for directing input optical signals comprises an optical fiber in a ferrule structure.

28. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 27 ~~having means~~ comprising a component for detecting signals at said second wavelength located on the surface of said ferrule structure.

29. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 27 wherein said ferrule structure has a polished end face cut at a forty-five degree angle.

30. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 27 wherein said ferrule structure is made of glass.

31. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 27 wherein said ferrule structure is made of silicon.

32. (currently amended) A planar light circuit ~~(PLC)~~ transceiver assembly as in claim 27 wherein said ferrule structure is made of a near infrared transparent material.

33. (currently amended) A device for separating signals at first and second wavelengths from one another, ~~said device~~ comprising

a wave guide structure for transmitting said signals along an optical path between an input and an output defined at the surface of ~~said~~ the wave guide structure; and ~~, said device including~~

a wavelength selective filter on the surface of ~~said~~ the wave guide structure in said optical path for separating out one of said first and second wavelengths, the wavelength selective filter external to the wave guide structure.

34. (previously presented) A device as in claim 33 wherein said wavelength selective filter transmits said first wavelength and reflects said second wavelength.

35. (currently amended) A device as in claim 33 wherein said wavelength selective filter is positioned in said optical path on the surface of ~~said~~ the wave guide structure at said output.

36. (currently amended) A device as in claim 33 ~~also including~~ further comprising a second output, ~~said~~ the wave guide structure including first and second wave guides for defining first and second light paths from said input to said first and second outputs respectively.

37. (currently amended) A device ~~including~~ comprising

a folded path optical structure having first and second edges, ~~said~~ the folded path optical structure comprising first and second optical waveguides, and ~~said structure including~~

a wavelength selective filter at ~~said~~ the first edge of the folded path optical structure, the wavelength selective filter positioned external to the folded path optical structure, ~~said~~

the waveguides having first and second ends, the ~~said~~ first ends communicating with ~~said filter~~ the wavelength selective filter, the waveguides for directing light in said first waveguide into said second waveguide.

38. (previously presented) A device as in claim 37 wherein said waveguides are adapted to direct light at close to a normal incidence angle to said wavelength selective filter.

39. (currently amended) A device as in claim 37 ~~including~~ further comprising a light signal source communicating with the second end of said second waveguide.

40. (currently amended) A device as in claim 37 ~~also including~~ further comprising an optical fiber signal input ~~means~~ communicating with the second end of said first waveguide.

41. (currently amended) A planar light circuit ~~(PLC)~~ transceiver device for separating optical signals at first and second wavelengths from one another, ~~said device~~ comprising

a planar light circuit comprising an internal branching waveguide structure having an input end and first and second output ends, the input end adapted to direct the first wavelength signal to a detector at the first output end and to receive signals from an external signal source at the second output end whereby the detector at the first output end detects a clear first wavelength signal with high extinction wavelength isolation from the second wavelength signal; and

a wavelength selective filter ~~(WSF)~~ configured to pass a band of signals centered at said first wavelength and to reflect a band of signals centered at said second wavelength, ~~said WSF~~ the wavelength selective filter positioned external to the planar light circuit and placed in energy coupled proximity to an external surface of the planar light circuit ~~said PLC, said device further comprising~~

~~an internal branching waveguide structure having an input end and first and second output ends, said input end adapted to direct said first wavelength signal to a detector at said first output end and to receive signals from an external signal source at said second output end whereby the detector at said first output end detects a clear first wavelength signal with high extinction wavelength isolation from the second wavelength signal~~.

42.-52. (canceled)

53. (new) A bi-directional planar light circuit transceiver device as in claim 1 wherein the wavelength selective filter is placed on the surface of the planar light circuit.

54. (new) A bi-directional planar light circuit transceiver device as in claim 11 wherein the mirror means is placed on the surface of the planar light circuit.

55. (new) A planar light circuit transceiver device as in claim 13 wherein the wavelength selective filter is placed on the surface of the planar light circuit.

56. (new) A planar light circuit transceiver assembly as in claim 20 wherein the wavelength selective filter is placed on the surface of the planar light circuit.

57. (new) A device as in claim 33 wherein the wavelength selective filter is placed on the surface of the wave guide structure.

58. (new) A device as in claim 37 wherein the wavelength selective filter is placed on the surface of the folded path optical structure.

59. (new) A bi-directional transceiver device that separates optical signals at a first wavelength from optical signals at a second wavelength, comprising

a planar light circuit comprising an internal waveguide structure adapted to direct optical signals in the planar light circuit; and

a wavelength selective filter configured to pass a first band of signals centered at a first wavelength and to reflect a second band of signals centered at a second wavelength, the wavelength selective filter positioned external to the planar light circuit and placed in energy coupled proximity to an external surface of the planar light circuit,

wherein the first band of signals centered at the first wavelength travel in two directions within the internal waveguide structure.

60. (new) A bi-directional transceiver device as in claim 59 wherein the wavelength selective filter is placed on the surface of the planar light circuit.

61. (new) A bi-directional transceiver device as in claim 59 wherein the wavelength selective filter has a variable thickness.

62. (new) A bi-directional transceiver device as in claim 59 wherein the wavelength selective filter comprises a dichroic wavelength selective filter.

63. (new) A bi-directional transceiver device as in claim 59 wherein the wavelength selective filter comprises an interference wavelength selective filter.